

## AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (Currently Amended) A semiconductor device, comprising:
  - a semiconductor region[[,]] in which an impurity of one conductivity type is doped;
  - a gate insulation layer[[,]] formed on the semiconductor region;
  - a gate electrode[[,]] formed on the gate insulation layer;
  - a lightly doped layer, formed in a region from the a principal surface of the semiconductor region to a first depth of the semiconductor region, in which a first impurity of the another conductivity type is implanted into the semiconductor region with a first dose amount; and
  - a heavily doped layer, formed in a region from the principal surface of the semiconductor region to a second depth, ~~which is shallower than the first depth,~~ in which a second impurity of the another conductivity type is implanted into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10^{15} [\text{E}]^2/\text{cm}^2$  or less;

wherein the second depth is less than the first depth.

2. (Currently Amended) A semiconductor device, comprising:

a semiconductor region[[,]] in which an impurity of one conductivity type is doped;

a gate insulation layer[[,]] formed on the semiconductor region;

a gate electrode[[,]] formed on the gate insulation layer;

a lightly doped layer, formed in a region from ~~the a~~ principal surface of the semiconductor region to a first depth of the semiconductor region, in which a first impurity of the another conductivity type is implanted into the semiconductor region with a first dose amount; and

a heavily doped layer, formed in ~~the a~~ depth direction from the principal surface of the semiconductor region, in which a second impurity of the another conductivity type is implanted into the semiconductor region with a second dose amount so that a peak position of ~~the a~~ concentration of the second impurity exists at a second depth position, which is the second depth position being shallower less than the first depth by 0.15 μm or more.

3. (Currently Amended) A semiconductor device, comprising:

a semiconductor region[[,]] in which an impurity of one conductivity type is doped;

a gate insulation layer[[,]] formed on the semiconductor region;

a gate electrode[[,]] formed on the gate insulation layer;

a lightly doped layer, formed in a region from the a principal surface of the semiconductor region to a first depth of the semiconductor region, in which a first impurity of the another conductivity type is implanted into the semiconductor region with a first dose amount; and

a heavily doped layer, formed in the a depth direction from the principal surface of the semiconductor region, in which a second impurity of the another conductivity type is implanted into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10^{15} [E] \text{ cm}^{-2}$  or less so that a peak position of the a concentration of the second impurity exists at a second depth position, which is shallower the second depth position being less than the first depth by 0.15 μm or more.

4. (Currently Amended) The semiconductor device according to any of claim[[s]] 1 ~~through~~ 3, wherein the one conductivity type is N-type and the another conductivity type is P-type.

5. (Currently Amended) The semiconductor device according to any of claim[[s]] 1 ~~through~~ 3, wherein the second impurity is arsenic.

6. (Currently Amended) The semiconductor device according to any of claim[[s]] 1 through 5, further comprising a trench structure that isolates the semiconductor region.

7. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a semiconductor region by doping an impurity of one conductivity type;

forming a gate insulation layer on the semiconductor region;

forming a gate electrode on the gate insulation layer,

forming a lightly doped layer in a region from the a principal surface of the semiconductor region to a first depth of the semiconductor region by implanting a first impurity of the another conductivity type into the semiconductor region with a first dose amount; and

forming a heavily doped layer in a region from the principal surface of the semiconductor region to a second depth, which is shallower less than the first depth, by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10[[E]]^{15}/\text{cm}^2$  or less.

8. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a semiconductor region by doping an impurity of one conductivity type;

forming a gate insulation layer on the semiconductor region;

forming a gate electrode on the gate insulation layer;

forming a lightly doped layer in a region from the a principal surface to a first depth of the semiconductor region by implanting a first impurity of the another conductivity type into the semiconductor region with a first dose amount; and

forming a heavily doped layer in the a depth direction from the principal surface of the semiconductor region by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount so that a peak position of the a concentration of the second impurity exists at a second depth position, ~~which is shallower~~ the second depth position being less than the first depth by 0.15  $\mu$ m or more.

9. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a semiconductor region by doping an impurity of one conductivity type;

forming a gate insulation layer on the semiconductor region;

forming a gate electrode on the gate insulation layer;

forming a lightly doped layer in a region from the a principal surface to a first depth of the semiconductor region by implanting a first impurity of the another conductivity type into the semiconductor region with a first dose amount; and

forming a heavily doped layer in the a depth direction from the principal surface of the semiconductor region by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10^{15} [E] / \text{cm}^2$  or less so that a peak position of the a concentration of the second impurity exists at a second depth position, which is shallower the second depth being less than the first depth by 0.15 μm or more.

10. (Currently Amended) A semiconductor device, comprising:

a semiconductor region[[],] in which an impurity of one conductivity type is doped;

a gate insulation layer[[],] formed on the semiconductor region;

a gate electrode[[],] formed on the gate insulation layer; and

a heavily doped layer, formed by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount of  $1 \times 10^{15} [E]/\text{cm}^2$  or less.